



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,384	09/26/2000	Yasushi Sumi	NWA-15602/04	3384

7590 11/28/2003

Douglas W Sprinkle
Gifford Krass Groh Sprinkle
Anderson & Citkowski P C
280 N Old Woodward Suite 400
Birmingham, MI 48009

EXAMINER

PATEL, SHEFALI D

ART UNIT	PAPER NUMBER
----------	--------------

2621

DATE MAILED: 11/28/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/669,384

Applicant(s)

SUMI ET AL.

Examiner

Shefali D Patel

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment was received on September 29, 2003.
2. The objection to the drawing has been withdrawn. Applicants' have submitted a new drawing in response to the objection. The Figure 9 has been approved.
3. Applicants have amended claims 2-4 and 6-8 to overcome the objections. Therefore, the objection to claims 2-4 and 6-8 have been withdrawn.

Response to Arguments

1. Applicant's arguments filed on September 23, 2003 have been fully considered but they are not persuasive.
2. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "arbitrarily curved and smooth surface" of the object) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicants' argue starting on page 8 of remarks that "'006 reference recognizes a banana as an elongated oval object when laterally observed and suspended on one ends, while the banana is recognized as a circular object when observed from above... '006 reference recognizes the banana as a different object depending on a observing point and cannot trace movements of the banana in this manner." Applicants' further argue that "the present invention can recognize an arbitrarily-curved object substantially as it is by utilizing a net configuration model, it can trace movements of the banana." Furthermore, applicants' argues stating that "the present

Art Unit: 2621

invention can recognize and trace movements of a passenger car, a motorcycle, or a pedestrian constituted by complicated curved surfaces, it can be utilized advantageously in versatile ways.”

Finally, on page 9 of remarks, applicants’ argue that “the ‘006 reference discloses a method for tracing the motion of a three-dimensional object having exact edges rather than an object having an arbitrarily curved and smooth surface.” Note, nowhere in the claims 1 or 5, applicants are claiming to have an object or detect an object having an arbitrarily curved and smooth surface as argued on page 9 lines 1-5 of the amendment.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sumi et al. (USPN 5,845,006).

With regard to **claim 1**, Sumi et al. (hereinafter, “Sumi”) discloses an object motion tracing method for tracing the three-dimensional (hereinafter, “3-D”) motion of an object, based on the stereo image of the object concerned obtained in time series (as described in Fig. 2), composed of: a selecting step for selecting tracing points corresponding to the silhouette of the object concerned in the stereo image of the object (which corresponds to tracing points of the edges of the object, the edges of the object being the silhouette, are selected at step S4, in Fig. 2, and col. 2 lines 60-61); a sampling step for sampling from the above-mentioned stereo image the

Art Unit: 2621

corresponding points on the silhouette of the object corresponding to respective tracing points (step S5 in Fig. 2, col. 2 lines 61-62); a measuring step for measuring the 3-D coordinates of the sampled corresponding points (step S6 in Fig. 2, col. 2 lines 62-64); and a detecting step for detecting the position/posture of the object from the 3-D coordinates of those respective tracing points and respective corresponding points (step S7 in Fig. 2, col. 2 lines 64-65),

Wherein, the 3-D motion of aforesaid object is traced by continuously repeating each process from the selecting step through the detecting one toward each frame of the stereo image obtained in time series. This feature is considered inherent because it would be necessary to repeat the steps identified above for each of the frames, until satisfactory results of the tracing points for tracing the three dimensional motion of an object is obtained.

Claim 5 recites identical features, as claim 1 except claim 5 is a recording media claim. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 5. Note, Sumi discloses recording media in Figure 1, col. 2 lines 40-55.

With regard to **claim 2**, Sumi discloses the 3-D geometric model of an object being used to select the tracing points on the selecting step. As seen from Fig. 3 to Fig. 10 that 3-D model of an object is being used. Sumi discloses selection of tracing points at col. 3 line 56.

With regard to **claim 3**, Sumi discloses the 3-D coordinates being measured by stereo vision applying stereo correspondence on the measuring step at col. 4 lines 35-53.

With regard to **claim 4**, Sumi discloses the 3-D coordinates being measured by monocular vision (i.e., single-eyed view) on the measuring step at col. 4 lines 54-62.

Claim 6 recites identical features, as claim 2 except claim 6 is a recording media claim. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 6.

Claim 7 recites identical features, as claim 3 except claim 7 is a recording media claim. Thus, arguments similar to that presented above for claim 3 is equally applicable to claim 7.

Claim 8 recites identical features, as claim 4 except claim 8 is a recording media claim. Thus, arguments similar to that presented above for claim 4 is equally applicable to claim 8.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Application/Control Number: 09/669,384

Page 6

Art Unit: 2621

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.


DANIEL MARIAM
PRIMARY EXAMINER

Shefali D Patel
Examiner
Art Unit 2621

November 24, 2003